Amendments of the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the above-identified patent application:

Listing of Claims

1. (currently amended) A method for analyzing data that represents a system that varies over time, said method comprising:

beginning at a first initial moment, acquiring said data during an initial first duration and determining an initial first range of said data between a minimum value during said initial first duration and a maximum value during said initial first duration; [[and]]

comparing said first range of said data during said initial first duration to ~~an expected~~ a range of said data expected, based on Brownian motion, during said initial first duration ~~based on Brownian motion~~;

when said first range of said data during said initial first duration equals said range of said data expected, based on Brownian motion, during said initial first duration, concluding that said system is varying erratically;

when said first range of said data during said initial first duration exceeds said range of said data expected, based on Brownian motion, during said initial first duration, concluding that said system is varying in a trend; and

when said first range of said data during said initial first duration is less than said range of said data expected, based on Brownian motion, during said initial first duration, concluding that said system is congesting.

2. (original) The method of claim 1 wherein said comparing comprises comparing said initial first range of said data to a generated Brownian motion standard.

3. (original) The method of claim 2 further comprising, after said acquiring and before said comparing, applying bootstrapping techniques to said data.

4. (currently amended) The method of claim 1 further comprising:

beginning at said first initial moment, acquiring said data during an initial second duration of which said initial first duration is a multiple and determining an initial second range of said data between a minimum value during said initial second duration and a maximum value during said initial second duration; wherein said comparing comprises:

comparing an actual relationship of said initial first range to said initial second range to an expected relationship of said initial first range to said initial second range, and determining from said comparison how said ~~data are~~ system is varying.

5. (currently amended) The method of claim 4 wherein said comparing and determining comprises:

forming a ratio of said initial first range to said initial second range; and:

when said ratio equals a square root of said multiple concluding that said ~~data are~~ system is varying erratically;

when said ratio exceeds said square root, concluding that said ~~data are~~ system is varying in a trend; and

when said ratio is less than said square root, concluding that said ~~data are~~ system is congesting.

6. (currently amended) The method of claim 4 further comprising:

beginning at a subsequent initial moment, acquiring said data during a subsequent first duration and determining a subsequent first range of said data between a minimum value during said subsequent first duration and a maximum value during said subsequent first duration;

beginning at said subsequent initial moment, acquiring said data during a subsequent second duration of which said subsequent first duration is said multiple and determining a subsequent second range of said data between a minimum value during said subsequent second duration and a maximum value during said subsequent second duration; and

comparing an actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to said subsequent second range, and determining from said comparison how said ~~data are~~ system is varying.

7. (original) The method of claim 6 further comprising repeating said acquiring, said determining and said comparing at multiple additional subsequent initial moments.

8. (currently amended) The method of claim 7 wherein said comparing and determining comprises, for each of said initial moments:

forming a ratio of said initial first range to said initial second range and:

when said ratio equals a square root of said multiple, concluding that said ~~data are~~ system is varying erratically;

when said ratio exceeds said square root, concluding that said ~~data are~~ system is varying in a trend; and

when said ratio is less than said square root, concluding that said ~~data are~~ system is congesting.

9. (currently amended) The method of claim 8 further comprising comparing said ratio for two consecutive ones of said initial moments and:

when each of said ratios equals a square root of said multiple, concluding that said ~~data are~~ system is varying erratically;

when each said ratio exceeds said square root and a subsequent ratio exceeds a prior ratio, concluding that said ~~data are~~ system is varying in a trend and said trend is accelerating;

when each said ratio exceeds said square root and a prior ratio exceeds a subsequent ratio, concluding that said ~~data are~~ system is varying in a trend and said trend is decelerating;

when each said ratio is less than said square root and a prior ratio exceeds a subsequent ratio, concluding that said ~~data are~~ system is congesting and said congestion is accelerating;

when each said ratio is less than said square root and a subsequent ratio exceeds a prior ratio, concluding that said ~~data are~~ system is congesting and said congestion is decelerating;

when a prior ratio is less than said square root and a subsequent ratio exceeds said square root, concluding that said ~~data have~~ system has moved from congestion into an accelerating trend; and

when a prior ratio exceeds said square root and a subsequent ratio is less than said square root, concluding that said ~~data have~~ system has moved from a decelerating trend into congestion.

10. (currently amended) The method of claim 9 further comprising:

comparing said ratio for three consecutive ones of said initial moments separated by equal time intervals; and

deriving from said comparison a prediction of when said ~~data~~ system will move from a current condition of congestion or trend to another condition of congestion or trend.

11. (original) The method of claim 10 further comprising displaying said prediction in the form of a closed curve with data points from said three consecutive ones of said initial moments identified on said closed curve.

12. (original) The method of claim 1 further comprising displaying said initial first range of said data and said expected range of said data.

13. (original) The method of claim 12 wherein said displaying comprises displaying a line graph.

14. (original) The method of claim 12 wherein said displaying comprises displaying an orbital plot.

15. (original) The method of claim 1 wherein said system is a financial system and said data are financial data.

16. (original) The method of claim 15 wherein said financial system is a market and said data represent price ranging.

17. (original) The method of claim 1 further comprising:

beginning at a subsequent initial moment, acquiring said data during a subsequent first duration and determining a subsequent first range of said data between a minimum value during said subsequent first duration and a maximum value during said subsequent first duration; and

comparing said subsequent first range of said data during said subsequent first duration to an expected range of said data during said subsequent first duration.

18. (currently amended) The method of claim 17 further comprising:

beginning at said subsequent initial moment, acquiring said data during a subsequent second duration of which said subsequent first duration is a multiple and determining a subsequent second range of said data between a minimum value during said subsequent second duration and a maximum value during said subsequent second duration; wherein said comparing comprises:

comparing an actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to said subsequent second range, and determining from said comparison how said ~~data are~~ system is varying.

19. (original) The method of claim 18 further comprising repeating said acquiring, said determining and said comparing at multiple additional subsequent initial moments.

20. (original) The method of claim 17 further comprising repeating said acquiring, said determining and said comparing, beginning at multiple additional subsequent initial moments.

21. (original) The method of claim 20 further comprising repeating said acquiring, said determining and said comparing at multiple additional sets of multiple initial moments, said duration differing for each said set.

22. (currently amended) Apparatus for analyzing data representing a system that ~~vary~~ varies over time, said apparatus comprising:

means for, beginning at a first initial moment, acquiring said data during an initial first duration and determining an initial first range of said data between a minimum value during said initial first duration and a maximum value during said initial first duration; [[and]]

means for comparing said first range of said data during said initial first duration to a range of said data expected, based on Brownian motion, during said initial first duration ~~expected based on Brownian motion~~; and

means for concluding:

when said first range of said data during said initial first duration equals said range of said data expected, based on Brownian motion, during said initial first duration, that said system is varying erratically,

when said first range of said data during said initial first duration exceeds said range of said data expected, based on Brownian motion, during said initial first duration, that said system is varying in a trend, and

when said first range of said data during said initial first duration is less than said range of said data expected, based on Brownian motion, during said initial first duration, that said system is congesting.

23. (original) The apparatus of claim 22 further comprising a Brownian motion standard generator; wherein:

said comparing means compares said initial first range of said data to a Brownian motion standard generated by said Brownian motion standard generator.

24. (original) The apparatus of claim 23 further comprising means for applying bootstrapping techniques to said acquired data.

25. (currently amended) The apparatus of claim 22 further comprising:

means for, beginning at said first initial moment, acquiring said data during an initial second duration of which said initial first duration is a multiple and determining an initial second range of said data between a minimum value during said initial second duration and a maximum value during said initial second duration; wherein:

said comparing means compares an actual relationship of said initial first range to said initial second range to an expected relationship of said initial first range to said initial second range, and determines from said comparison how said ~~data are~~ system is varying.

26. (currently amended) The apparatus of claim 25 wherein said means for comparing and determining forms a ratio of said initial first range to said initial second range and:

when said ratio equals a square root of said multiple, concludes that said ~~data are~~ system is varying erratically;

when said ratio exceeds said square root, concludes that said ~~data are~~ system is varying in a trend; and

when said ratio is less than said square root, concludes that said ~~data are~~ system is congesting.

27. (currently amended) The apparatus of claim 25 further comprising:

means for, beginning at a subsequent initial moment, acquiring said data during a subsequent first duration and determining a subsequent first range of said data between a minimum value during said subsequent first duration and a maximum value during said subsequent first duration;

means for, beginning at said subsequent initial moment, acquiring said data during a subsequent second duration of which said subsequent first duration is said multiple and determining a subsequent second range of said data between a minimum value during said subsequent second

duration and a maximum value during said subsequent second duration; and

means for comparing an actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to said subsequent second range, and determining from said comparison how said ~~data are~~ system is varying.

28. (original) The apparatus of claim 22 further comprising means for displaying said initial first range of said data and said expected range of said data.

29. (original) The apparatus of claim 28 wherein said displaying means displays a line graph.

30. (original) The apparatus of claim 28 wherein said displaying means displays a orbital plot.

31. (original) The apparatus of claim 22 wherein said system is a financial system and said data are financial data.

32. (original) The apparatus of claim 31 wherein said financial system is a market and said data represent price ranging.

33. (original) The apparatus of claim 22 further comprising:

means for, beginning at a subsequent initial moment, acquiring said data during a subsequent first duration and determining a subsequent first range of said data between a minimum value during said subsequent first duration and a maximum value during said subsequent first duration; and

means for comparing said subsequent first range of said data during said subsequent first duration to an

expected range of said data during said subsequent first duration.

34. (currently amended) The apparatus of claim 33 further comprising:

means for, beginning at said subsequent initial moment, acquiring said data during a subsequent second duration of which said subsequent first duration is a multiple and determining a subsequent second range of said data between a minimum value during said subsequent second duration and a maximum value during said subsequent second duration; wherein said comparing means compares an actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to said subsequent second range, and determines from said comparison how said ~~data are~~ system is varying.

35. (currently amended) Apparatus for analyzing data representing a system that ~~vary~~ varies over time, said apparatus comprising:

a data feed for, beginning at a first initial moment, acquiring said data during an initial first duration; and

a processor for determining an initial first range of said data between a minimum value during said initial first duration and a maximum value during said initial first duration; wherein:

said processor compares said first range of said data during said initial first duration to a range of said data expected, based on Brownian motion, during said initial first duration ~~expected based on Brownian motion~~; and

said processor concludes:

when said first range of said data during said initial first duration equals said range of said data

expected, based on Brownian motion, during said initial first duration, concluding that said system is varying erratically,

when said first range of said data during said initial first duration exceeds said range of said data expected, based on Brownian motion, during said initial first duration, concluding that said system is varying in a trend, and

when said first range of said data during said initial first duration is less than said range of said data expected, based on Brownian motion, during said initial first duration, concluding that said system is congesting.

36. (original) The apparatus of claim 35 further comprising a Brownian motion standard generator; wherein:

said processor compares said initial first range of said data to a Brownian motion standard generated by said Brownian motion standard generator.

37. (original) The apparatus of claim 36 wherein said processor applies bootstrapping techniques to said acquired data.

38. (currently amended) The apparatus of claim 35 wherein:

said data feed, beginning at said first initial moment, acquires said data during an initial second duration of which said initial first duration is a multiple;

said processor determines an initial second range of said data between a minimum value during said initial second duration and a maximum value during said initial second duration; and

said processor compares an actual relationship of said initial first range to said initial second range to an expected relationship of said initial first range to said

initial second range, and determines from said comparison how said ~~data are~~ system is varying.

39. (currently amended) The apparatus of claim 38 wherein said processor forms a ratio of said initial first range to said initial second range and:

when said ratio equals a square root of said multiple, concludes that said ~~data are~~ system is varying erratically;

when said ratio exceeds said square root, concludes that said ~~data are~~ system is varying in a trend; and

when said ratio is less than said square root, concludes that said ~~data are~~ system is congesting.

40. (currently amended) The apparatus of claim 38 wherein:

said data feed, beginning at a subsequent initial moment, acquires said data during a subsequent first duration;

said processor determines a subsequent first range of said data between a minimum value during said subsequent first duration and a maximum value during said subsequent first duration;

said data feed, beginning at said subsequent initial moment, acquiring said data during a subsequent second duration of which said subsequent first duration is said multiple;

said processor determines a subsequent second range of said data between a minimum value during said subsequent second duration and a maximum value during said subsequent second duration; and

said processor compares an actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to

said subsequent second range, and determines from said comparison how said ~~data are~~ system is varying.

41. (original) The apparatus of claim 35 further comprising a display for displaying said initial first range of said data and said expected range of said data.

42. (original) The apparatus of claim 41 wherein said display displays a line graph.

43. (original) The apparatus of claim 41 wherein said display displays a orbital plot.

44. (original) The apparatus of claim 35 wherein said system is a financial system and said data are financial data.

45. (original) The apparatus of claim 44 wherein said financial system is a market and said data represent price ranging.

46. (original) The apparatus of claim 35 wherein:

said data feed, beginning at a subsequent initial moment, acquires said data during a subsequent first duration;

said processor determines a subsequent first range of said data between a minimum value during said subsequent first duration and a maximum value during said subsequent first duration; and

said processor compares said subsequent first range of said data during said subsequent first duration to an expected range of said data during said subsequent first duration.

47. (currently amended) The apparatus of claim 46 wherein:

said data feed, beginning at said subsequent initial moment, acquires said data during a subsequent second duration of which said subsequent first duration is a multiple;

said processor determines a subsequent second range of said data between a minimum value during said subsequent second duration and a maximum value during said subsequent second duration;

said processor compares an actual relationship of said subsequent first range to said subsequent second range to an expected relationship of said subsequent first range to said subsequent second range, and determines from said comparison how said ~~data are~~ system is varying.

48. (currently amended) A method for analyzing data representing a system that ~~vary~~ varies over time, said method comprising:

beginning at an initial moment, acquiring said data during a first duration and determining a first range of said data between a minimum value during said first duration and a maximum value during said first duration;

determining~~, based on Brownian motion, an expected~~ a second range, expected based on Brownian motion, of said data during a second duration beginning at said initial moment; and

monitoring an instantaneous value of said data during said second duration and determining that said ~~data are~~ system is varying in a trend when said instantaneous value is outside said expected second range.

49. (original) The method of claim 48 wherein:

said second duration is a multiple of said first duration; and

said expected second range is a product of said first range and a square root of said multiple.

50. (original) The method of claim 48 wherein said system is a financial system and said data are financial data.

51. (original) The method of claim 50 wherein said financial system is a market and said data represent price ranging.

52. (currently amended) Apparatus for analyzing data representing a system that ~~vary~~ varies over time, said apparatus comprising:

means for, beginning at an initial moment, acquiring said data during a first duration and determining a first range of said data between a minimum value during said first duration and a maximum value during said first duration;

means for determining~~, based on Brownian motion, an expected~~ a second range, as expected based on Brownian motion, of said data during a second duration beginning at said initial moment; and

means for monitoring an instantaneous value of said data during said second duration and determining that said ~~data are~~ system is varying in a trend when said instantaneous value is outside said expected second range.

53. (original) The apparatus of claim 52 wherein:

said second duration is a multiple of said first duration; and

said expected second range is a product of said first range and a square root of said multiple.

54. (original) The apparatus of claim 52 wherein said system is a financial system and said data are financial data.

55. (original) The apparatus of claim 54 wherein said financial system is a market and said data represent price ranging.

56. (currently amended) Apparatus for analyzing data representing a system that ~~vary~~ varies over time, said apparatus comprising:

a data feed for, beginning at an initial moment, acquiring said data during a first duration and monitoring an instantaneous value of said data during a second duration beginning at said initial moment; and

a processor for:

determining an initial first range of said data between a minimum value during said initial first duration and a maximum value during said initial first duration,

determining~~, based on Brownian motion, an expected~~ a second range, expected based on Brownian motion, of said data during a second duration beginning at said initial moment, and

determining that said ~~data are~~ system is varying in a trend when said instantaneous value is outside said expected second range.

57. (original) The apparatus of claim 56 wherein:

said second duration is a multiple of said first duration; and

said expected second range is a product of said first range and a square root of said multiple.

58. (original) The apparatus of claim 56 wherein said system is a financial system and said data are financial data.

59. (original) The apparatus of claim 58 wherein said financial system is a market and said data represent price ranging.

60. (withdrawn) A method for offering to subscribers analysis of data that vary over time, said method comprising:

beginning at each of a plurality of initial moments, acquiring said data during a plurality of respective first durations;

dividing said data into respective portions, each of said respective portions including data for one or more of said plurality of respective first durations;

transmitting said data to respective computers operated by at least some of said subscribers at the option of each individual subscriber;

determining at each said respective computer, for each respective first duration in said respective data portion a respective first range of said data between a minimum value during said respective first duration and a maximum value during said respective first duration;

determining at each said respective computer, for each respective first duration in said respective data portion a respective expected range of said during said respective first duration;

collecting said respective determinations of said respective computers;

comparing each respective range of said data during each respective first duration to each respective expected range of said data during said respective first duration; and

transmitting said comparison to said subscribers.

61. (withdrawn) The method of claim 60 further comprising charging a respective subscription fee to each of said subscribers, said respective subscription fee being lower for a subscriber among said at least some of said subscribers than for a subscriber outside said at least some of said subscribers.

62. (new) The apparatus of claim 56 wherein said system is a biological system and said data are biological data.

63. (new) The apparatus of claim 56 wherein said system is a meteorological system and said data are meteorological data.

64. (new) The apparatus of claim 52 wherein said system is a biological system and said data are biological data.

65. (new) The apparatus of claim 52 wherein said system is a meteorological system and said data are meteorological data.

66. (new) The method of claim 48 wherein said system is a biological system and said data are biological data.

67. (new) The method of claim 48 wherein said system is a meteorological system and said data are meteorological data.

68. (new) The apparatus of claim 35 wherein said system is a biological system and said data are biological data.

69. (new) The apparatus of claim 35 wherein said system is a meteorological system and said data are meteorological data.

70. (new) The apparatus of claim 22 wherein said system is a biological system and said data are biological data.

71. (new) The apparatus of claim 22 wherein said system is a meteorological system and said data are meteorological data.

72. (new) The method of claim 1 wherein said system is a biological system and said data are biological data.

73. (new) The method of claim 1 wherein said system is a meteorological system and said data are meteorological data.